



Office of Sustainability

UNIVERSITY OF WISCONSIN-MADISON

SUSTAINABILITY YEAR-END REPORT

FISCAL YEAR 2018



**Facilities Planning
& Management**
UNIVERSITY OF WISCONSIN-MADISON

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Introduction/Overview

No other university has its roots more deeply embedded in an ethos of conservation and stewardship. The ideas and actions of Wisconsin pioneers such as John Muir, Charles Van Hise, Aldo Leopold, and Gaylord Nelson are an inspiration in addressing one of the greatest challenges of the 21st century: how to meet the needs of the present without compromising the ability of future generations to meet their own needs.

- UW-Madison Sustainability Initiative Task Force Final Report, October 2010

In recent years, staff, faculty, and students from all parts of the UW-Madison campus have worked to launch and develop the Office of Sustainability (OS) based on priorities established by the Sustainability Task Force. These priorities include:

- More fully integrate research, education, and campus operations
- Incorporate systems analysis, life-cycle analysis, and cradle-to-grave thinking
- Eliminate waste with urgency, in ways that are environmentally, economically, and socially responsible
- Ensure transparency in our metrics, practices, and decision-making
- Honor and engage the ideas, enthusiasm, and commitment of students

The many people who contributed to the creation of the OS shared, and still share, the vision that underlies these priorities: that UW-Madison should become “a living model for sustainability, exemplifying values and actions that demonstrate our commitment to stewardship of resources, respect for place, and the health and well-being of the broader community, now and for the future.”¹

The ongoing work of transforming our campus into a living model for sustainability involves multiple campus units and benefits from rich partnerships across the university. Indeed, as Chancellor Blank recently asserted, “sustainability and resource stewardship are the organizing principles of the UW-Madison’s campus master plan.”² If we understand sustainability as a process rather than a product, UW-Madison will bring the process of sustainability to its fullest fruition—and best fulfill its organizing principles—when it strives for the holistic integration of its organizational structures.

In order to cultivate graduates, citizens, and leaders for whom sustainability is a core value, student engagement has been, and must remain, a priority. We owe students a robust literacy in sustainability so that they can become informed decision-makers and change agents. During FY18, the OS made student engagement central to every aspect of its programming: through the OS internship and Green Fund projects; at Earth Week events, on social media platforms, and in partnerships with Housing the Union, and College Library; and across the digital pages of the OS newsletter.

UW-Madison also has a responsibility to honor and engage students as major stakeholders on campus. Students are eager to instigate behavioral change, and their grassroots efforts showcase UW-Madison’s ongoing legacy of responsible environmental leadership and thought. For example, the Associated Students of Madison (ASM) Sustainability Committee, Helios,³ and CLEAN⁴ have established themselves

¹ UW-Madison Sustainability Initiative Task Force Final Report, October 2010, page 10, https://sustainability.wisc.edu/wp-content/uploads/sites/29/2017/03/sustainability_taskforce-report_10oct2010_web1.pdf.

² Sustainability at UW-Madison, September 2017, page 2, https://chancellor.wisc.edu/content/uploads/2017/09/UW_sustainability_9.25.17.pdf.

³ Helios, <http://www.helios-uw.com/about.html>.

⁴ “New Organization Aims to Help UW-Madison Transition to Clean Energy,” OS Newsletter, February 19, 2018, <https://sustainability.wisc.edu/clean-organization>.

as well-informed, motivated organizations on campus that have the unique capacity to mobilize fellow students and steer institutional change over time.

Indeed, our students are activists as well as stakeholders. In FY18, ASM joined the Faculty Senate and Academic Staff Assembly in passing a resolution aimed at clarifying and solidifying UW-Madison's commitment to sustainability as a fulfillment of its institutional mission. Our university is fortunate to have these vigorous, unified voices in support of sustainability efforts.

The writers of the Sustainability Initiative Task Force urged "visible and clear statements of support from campus leadership [which] will be essential for sustainability to succeed on campus."⁵ As we look toward FY19, the Office of Sustainability is poised to work with campus leadership to achieve the shared vision of making our university a vibrant model for sustainability.

About this Report

This report on sustainability efforts at UW-Madison addresses Fiscal Year 18 and includes the 2017 summer session and 2017-2018 academic year.

The section that follows lists sustainability initiatives in alphabetical order. Most of these initiatives bridge campus operations, education, and/or research. Some are run by the Office of Sustainability (OS); others have been launched independently by campus units such as Facilities Planning & Management (FP&M) and University Housing. Many of these initiatives have been accomplished through partnerships. Finally, and perhaps most importantly, many of these initiatives directly tap the talents of our students.

Acknowledgments

This report was prepared by team of writers: Nathan Jandl, Cathy Middlecamp, Missy Nergard, and Steve Wagner. They gratefully acknowledge input from other individuals, campus-wide.

⁵ UW-Madison Sustainability Initiative Task Force Final Report, October 2010, page 17, https://sustainability.wisc.edu/wp-content/uploads/sites/29/2017/03/sustainability_taskforce-report_10oct2010_web1.pdf.

Sustainability on the UW-Madison Campus

UW–Madison is committed to institutional practices that will be sustainable for years to come. Sustainability is embedded in UW-Madison’s campus operations, academics, research, and most vitally, in cross-cutting collaborations among students, faculty, and staff. As this section demonstrates, some sustainability initiatives are run through the Office of Sustainability (OS) programs. Others represent the work of those in FP&M and other units on campus. Still others reflect partnerships among several units.

Buildings, Energy, and Utilities

UW–Madison maintains more than 400 buildings. Through a series of smart investments, the university has taken significant steps toward reducing utility demand and using our energy resources efficiently while keeping spaces safe, comfortable, and powered.

Some of the sustainable elements of campus buildings are easy to spot. These include:

- Low-flow fixtures, including dual-flush toilets and low-flow faucets.
- Building design and window placement.
- Green roofs and other plantings.

Other sustainability choices are less visible. Some behind-the-scenes elements include:

- Energy conservation upgrades and retrofits.
- Use of recycled materials.
- Responsibly sourced building materials.
- Reducing erosion and runoff from construction sites.
- Low-emission adhesives, paints, and textiles that improve indoor air quality and occupant comfort.
- Green cleaning products that reduce environmental impact and improve worker safety.
- Building removal and material recycling.

Energy efficiency. Campus has reduced its energy footprint by 25.3 percent per square foot since 2006 even as campus building space has grown by more than 4 million gross square feet.⁶ This has led to approximately \$18 million annual savings in utility costs.

Renewable energy. In 2017, the university purchased 72,168,457 kilowatt-hours of green energy, much of which was purchased from Madison Gas & Electric. MG&E has made a public commitment to generate 25 percent of its electricity from renewable sources by 2025 and 30 percent by 2030.⁷ Every year since 2009, UW–Madison has purchased green energy that accounts for 15 percent of the campus’s annual electricity use.

Heating and cooling plants. The Charter Street Heating Plant operates year-round to provide steam and chilled water to heat and cool campus buildings. The Walnut Street Heating Plant is used for backup and during periods of high demand. Although the plants once burned coal, both now use natural gas, which is less expensive, more efficient, and produces 44 percent fewer greenhouse gas emissions than coal.

Water use and conservation. UW–Madison has installed thousands of low-flow fixtures throughout campus, changed irrigation practices, and replaced mechanical systems that required potable water, leading to 178 million gallons of water saved annually since 2006. In addition, campus heating plants use water from Lake Mendota rather than city water for cooling, which saves more than \$1.8 million per

⁶ 2017 Wisconsin Energy Statistics, page 17, <https://psc.wi.gov/Documents/OEI/>.

⁷ MGE’s Energy 2030 Framework, <https://www.mge.com/community-conversations/framework.htm>.

year in utility costs. This practice also is more sustainable because lake water has not been treated and pumped through a municipal system and contains fewer minerals that can build up in the steam distribution system.

Construction. Every major construction project marks a step toward building an increasingly sustainable campus that is able to meet today's needs without compromising the future. All major construction projects aim to incorporate elements that improve building performance, reduce resource demand, and generate a strong return on investment.

Campus Planning

Sustainability is integrated throughout the Campus Master Plan,⁸ a framework that guides the development of the built environment while protecting UW–Madison's natural and cultural landscapes. The Campus Master Plan provides recommendations about where and how to develop the roughly 600 acres of developable land on the main campus. The Campus Master Plan includes:

A **Utilities Master Plan** that outlines the upgrades to the existing system as well as proposed utility expansions to support increased demands due to expected campus growth. The plan also examines the use of renewable energy sources and sustainable design options to reduce overall campus energy use, expenditures, and environmental impact and to meet ongoing building energy performance goals.

A **Long Range Transportation Plan** that outlines the university's vision for a safe, efficient, and connected multimodal transportation network that meets current and projected needs. The plan's recommendations emphasize sustainable transportation options and maintain walking and biking as the primary modes of transportation on campus.

A **Landscape Master Plan** that establishes a vision for improving the function and usage of open spaces through enhancing connections with the lakes and campus natural areas, protecting historical and cultural landscapes, fostering resilient plant communities, and reducing negative environmental impacts of management choices.

A **Green Infrastructure and Stormwater Master Plan** that recommends solutions to meet stormwater management regulations as well as existing campus stormwater policy. This plan establishes three overarching campus goals: 1) implement stormwater practices and policies that contribute to healthy Yahara Lakes; 2) integrate research and learning into the campus stormwater management approach; and, 3) connect campus stormwater management to the wider Yahara Lakes watershed community.



⁸ UW–Madison Campus Master Plan, <https://cpla.fpm.wisc.edu/planning/campus-master-plans/>.

Communications

Through its communication channels, the OS seeks to educate, inform, involve, and entertain with the larger goal of cultivating and sharing the culture of sustainability on campus. In addition to engaging with both university and external news media, the OS maintains three distinct forms of outreach:

- **OS website.** The primary online source of sustainability information at UW-Madison. The site shares news and events, hosts stories for the OS newsletter, provides current information about waste practices on campus, archives sustainability initiatives, and furnishes users with quick links to a range of operational pages on sustainability subtopics.
- **OS social media.** Twitter, Facebook, and Instagram accounts actively disseminate information about campus sustainability initiatives and opportunities, as well as students, faculty, staff, and other followers in conversations. At the end of FY18, the OS paid special attention to Instagram stories that shared specific sustainability tips and suggestions. Followers: Twitter >2,000, Facebook >1,200, and Instagram >900 by June 2018.
- **OS newsletter.** The OS newsletter is sent to 4,300+ subscribers and features both original and reposted content covering the spectrum of sustainability on campus and in the Midwest. During FY18, 17 issues were published. Recent OS content has been picked up by *Inside UW* and *Grow*.

Other units on campus also create sustainability-related content. For example, both FP&M and University Housing regularly post sustainability updates on their respective websites, some of which are picked up by University Communications.⁹

Green Fund Program



UW graduate student Tom Bryan, project lead.

Run through the OS, the UW–Madison Green Fund supports student-initiated projects that reduce the environmental footprint and operating costs of on-campus facilities in the areas of 1) solid waste, 2) energy, and 3) water conservation.¹⁰ Four projects were completed or launched in FY18:

Leopold Hall cooling. Residents of Leopold Hall worked with University Housing and the FP&M Physical Plant to integrate an energy-efficient evaporative cooling system into their rooftop greenhouse.¹¹ This project is projected to reduce energy use by 37,500 kWh, utility costs by \$1,448, and CO₂ emissions by 21.6 metric tons over the 20-

year lifespan of the system, while providing a more comfortable learning environment for students.

Tripp Hall toilets. UW graduate student Johnny Uelmen received funding to install water-efficient toilets at Tripp Hall. The Green Fund facilitated new partnerships with University Housing and the FP&M Physical Plant to install 41 higher efficiency toilets. From a \$6,007 investment, Uelmen’s calculations

⁹ FP&M Sustainability, <https://facilities.fpm.wisc.edu/category/sustainability/>; University Housing Sustainability, <https://www.housing.wisc.edu/about/sustainability/>.

¹⁰ Green Fund Program, <https://sustainability.wisc.edu/greenfund/>.

¹¹ Green Fund Projects, <https://sustainability.wisc.edu/greenfund/projects/>.

show that Housing will save nearly \$37,000 in operating costs, reduce their water usage by over 6 million gallons, and eliminate about 47,000 pounds of greenhouse gas emissions annually.¹²

Compost Stewards. Rolled out during FY18, Compost Stewards support offices on campus in collecting and composting food waste, with the Office of Sustainability student intern Green Office team providing educational and logistical support.¹³



Sam Grindel (undergrad), Marcella Otter (Physical Plant) and Bre Nehls (Housing).

Hydration stations. Honors student Sam Grindel conducted research into the lifecycle costs of reusable water bottles versus single use bottles. His findings led him to apply to the Green Fund for FY18 to introduce hydration stations to campus. Grindel estimates that if all 7,500 students moving in refilled their water bottle once, it would prevent the need for 200 pounds of plastic, reduce waste by 40 bags of trash, and eliminate 1,500 kg CO₂e of carbon emissions. The hydration stations will make their debut at the Fall 2018 residence hall Move-In.

Grounds

The UW–Madison campus covers 936 acres, with landscapes ranging from the bustling urban corridor along University Avenue to the iconic lawns of Bascom Hill and the quiet repose of the Lakeshore Residence Halls. In FY18, the university engaged in practices to maintain these spaces sustainably.

Sustainable lawn care. All campus lawns (86 acres mowed in FY18) are maintained with organic fertilizers when possible. In addition, grounds crews use mulching mowers to keep organic material in place, promote healthy soil, and reduce the need for additional fertilizer.

Composting landscaping waste. All landscaping waste generated on campus is composted or turned into mulch. For example, leaf material collected in the fall is mixed with manure, composted at the West Madison Agricultural Research Station, and reapplied to campus grounds.

Pesticide and fertilizer use. Campus pesticide and fertilizer use are reviewed annually to ensure best practices, minimize exposure risk, and reduce chemical-contaminated runoff from campus landscapes into the local lakes. The university also follows an integrated pest management (IPM) program that uses an evidence-based decision-making process to identify and reduce the environmental and human impacts of both pest and pest management strategies.

Rain gardens, perennials, and other low-maintenance landscaping. Campus landscaping includes many rain gardens, perennial and native species, and other plantings that require less maintenance and fewer chemical applications. Non-turfgrass landscaping also improves water infiltration and reduces runoff compared to traditional lawns.

¹² "Uelmen's Green Fund Project Predicts Massive Savings for University Housing," OS Newsletter, August 14, 2018, <https://sustainability.wisc.edu/uelsen-green-fund-project/>.

¹³ "Compost Stewards Come to Campus," OS Newsletter, July 24, 2018, <https://sustainability.wisc.edu/compost-stewards-come-to-campus/>.

Land Stewardship and Natural Areas

The two largest campus natural areas are the Lakeshore Nature Preserve¹⁴ and the Arboretum.¹⁵

Lakeshore Nature Preserve comprises about 300 acres that extend more than four miles along the shoreline of Lake Mendota. The Preserve includes a range of diverse habitats, from the restored Class of 1918 Marsh to Biocore Prairie and from Muir Woods to the Eagle Heights Community Gardens, as well as several culturally significant landmarks. UW–Madison maintains the Preserve as permanently protected, undeveloped land and as a “living laboratory” space for teaching, research, and outreach.

UW–Madison Arboretum and its 1260 acres are a testament to the capacity of ecological restoration to re-establish historical landscapes, even in the heart of a growing city. The Arboretum now hosts the oldest and most varied collection of native plant and animal communities in the world, including tallgrass prairies, oak savannas, deciduous and conifer forests, and wetlands. It also includes a large horticultural collection of flowering trees, shrubs, and lilacs. The Arboretum serves primarily as a research and teaching site but also provides recreational opportunities.

Stormwater Management

With more than four miles of shoreline along Lake Mendota, responsible stormwater management practices on the UW–Madison campus play a large role in keeping the Madison lakes clean and healthy. Best management practices improve infiltration, reduce runoff, and remove sediment. These practices currently capture about 50,000 pounds of suspended solid material and 140 pounds of phosphorus compounds each year from campus lands.

Rain gardens and bioswales comprise more than 190,000 square feet. Both collect stormwater, cooling it and filtering out sediment and contaminants before the water enters the watershed. Many of these areas also include a variety of perennial plants, which improve infiltration and provide wildlife habitat.

Minimizing salt use. UW–Madison participates in the Wisconsin Salt Wise program to minimize salt use.¹⁶ Campus practices include brining roads and walkways before expected snow, manual snow removal, and a focus on using the correct timing, quantity, and type of ice melt products for the temperature and volume of snowfall.

Porous and permeable paving. In paved areas such as parking lots, patios, and walkways, UW–Madison is testing permeable pavers and porous concrete and asphalts that allow water to seep through rather than washing into storm systems.

Green roofing. Found on more than a dozen campus buildings, green roofs replace what would otherwise be impervious surface with plantings that absorb rainfall and reduce runoff. Green roofing brings a host of other advantages as well, including reducing building heating and cooling loads.

Stormwater collection and reuse. Several cisterns and rain barrels around campus collect rainwater for re-use in watering gardens.

¹⁴ Lakeshore Preserve, <https://lakeshorepreserve.wisc.edu/>.

¹⁵ UW-Madison Arboretum, <https://arboretum.wisc.edu/>.

¹⁶ WI Salt Wise, <https://www.wisaltwise.com/>.

Student Intern Program

The Office of Sustainability offers paid internships for undergraduates selected in a competitive process and who represent a diverse group of majors. In FY18, 17 students participated in the year-long program. Interns work on a consultation model, serving as a resource for other entities on campus. Students work in teams to raise awareness of sustainable practices, influence consumer behavior, and consult partners across campus in individualized strategies for implementation. Student intern program teams active in FY18 included:

- **Green Office Certification.** This team assists campus offices of any size to become more sustainable workplaces through a three-step certification process.
- **Waste and Recycling.** This team helps campus groups improve their recycling and composting practices through waste audits and consultations. This team conducted 15 trash audits this year.
- **Communications.** This team assists the Communications Director in creating content for the OS social media feeds and website, running campus-facing events, producing the OS newsletter, and documenting intern team activities. Story highlights from FY18 included:
 - “Careful Campus Planning Means Safe, Sustainable Commuting”¹⁷
 - “Instructors Promote Inclusive Sustainability Education at National Conference”¹⁸
 - “Several Hundred People, 11 Pounds of Trash: A Successful Zero Waste Pilot on Earth Day”¹⁹
- **Green Greeks.** Established in FY18, this team seeks to establish sustainability practices within the Greek Life Community in order to improve their environmental, social, and economic performance in addition to the well-being of the Greek Life Community members.
- **Green Labs.** Established in FY18, this team offers UW-Madison students and employees the information and tools they need to learn about sustainability, to better understand the impacts of their practices, and to create healthy and sustainable laboratory environments.



Student interns visit the Madison Metropolitan Sewerage District in January 2018.



Student interns visit the Aldo Leopold Nature Center, summer 2018.

¹⁷ OS Newsletter, February 19, 2018, <https://sustainability.wisc.edu/sustainable-commuting/>.

¹⁸ OS Newsletter, July 3, 2018, <https://sustainability.wisc.edu/inclusive-sustainability-education/>.

¹⁹ OS Newsletter, May 22, 2018, <https://sustainability.wisc.edu/zero-waste-pilot-earth-day/>.

Student-run Events

2018 Sustain-a-Bash. Each fall, University Housing hosts Sustain-a-Bash, an event to celebrate sustainability and connect sustainability to the campus living experience. About 200 people attended to engage with over 20 campus and community organizations.²⁰

2018 Earth Week. The Associated Students of Madison partnered with the OS and University Housing to present a week of events leading up to the 2018 Nelson Institute Earth Day celebration. Additional partners included the Multicultural Student Center,²¹ F.H. King Students for Sustainable Agriculture,²² Lambda Theta Alpha Latin Sorority Inc.,²³ and the Wisconsin Bike Fed.²⁴



Sustain-a-Bash 2017, held outside Gordon Commons.

Transportation

The campus supports walking and bicycling as the primary modes of transportation on campus, while managing a mix of rapid transit and driving options to reduce single-occupancy vehicles on campus and balance travel and parking needs. UW–Madison maintains 13,000 campus parking spaces, which yields one of the lowest parking-to-person ratios (0.18:1) of any major university in the United States.

Transportation Services has partnered with the Associated Students of Madison, University Housing, and UW Health for ongoing sustainability initiatives. In FY18, these included:

Reducing the number of single-occupancy vehicles on campus.

- **Driving alternatives.** Vanpools/carpools, car-sharing, flex parking, and emergency rides home provide sustainable alternatives to single-occupancy vehicles.
- **Mass transit.** Free fixed-route campus bus service on Madison Metro routes 80, 81, 82, and 84. Free or heavily discounted bus passes to students/employees for unlimited rides on all Madison Metro routes. Madison Metro averages >15,000 bus boardings on campus each weekday during the academic year. (Partners: Associated Students of Madison and University Housing).
- **Park and Ride.** A park and ride lot in the Hill Farms neighborhood on Madison’s west side and two additional on the city’s near west and south sides, respectively. (Partners: UW Health).

Reducing air pollution and improving health with sustainable infrastructure.

- **Bicycle and pedestrian.** Currently over 70 percent of students walk or bike to campus. FP&M operates the SAFEwalk program to encourage walking and improve campus safety and security. The Bicycle Resource Center in Helen C. White offers tools, expertise, and workshops. The campus offers extensive bicycle parking facilities, including secure and covered options, departmental bicycle programs, nearly 15,000 bicycle parking spaces, and participation in the

²⁰ “The Fourth Annual Sustain-a-Bash: Better Living through Milkshakes, Activities, and Holistic Sustainability,” OS Newsletter, September 18, 2017, <https://sustainability.wisc.edu/the-fourth-annual-sustain-a-bash-better-living-through-milkshakes-activities-and-holistic-sustainability/>.

²¹ Multicultural Student Center, <https://msc.wisc.edu/>.

²² FH King, <https://www.fhking.org/>.

²³ Lambda Theta Alpha, <https://win.wisc.edu/organization/lambdathetaalpha>.

²⁴ Wisconsin Bike Fed, <http://www.bfw.org/>.

Madison BCycle bike sharing program. UW–Madison has been designated a Gold Level Bicycle Friendly University by the League of American Bicyclists.

- **Electric vehicle charging stations.** Electric vehicle charging stations are located in nine campus parking ramps and garages. These stations are made available free to parking customers.
- **Parking facility access.** Gated campus parking ramps use low-cost Generation II Radio Frequency Identification (RFID) tags for facility access. In partnership with the College of Engineering, RFID tags were found to reduce vehicle emissions associated with idling. The system pioneered by the UW–Madison RFID lab is now in use at Duke University and several other schools.

Sustainably maintaining a campus fleet.

- **Efficient campus vehicles.** The FP&M fleet includes compact low-speed vehicles that typically reach a maximum speed of around 25 mph and are well-suited for short trips. They offer a fuel economy up to three times that of a full-sized, full-speed vehicle.
- **Hybrid and alternative fuel vehicles.** Some full-sized vehicles in the FP&M fleet run on biodiesel blends to maintain performance and reduce fossil fuel use. Others use hybrid technology, such as an innovative hybrid electric bucket truck that can run the bucket with the engine off. This function both reduces emissions and promotes worker safety.
- **Sustainable purchasing.** The campus fleet maximizes the lifespan of vehicles by rotating them through multiple departments. Through vehicle reuse and selective purchasing of used vehicles from other state agencies, UW–Madison minimizes campus purchase of new vehicles.

Undergraduate and Graduate Certificate Programs

The undergraduate Sustainability Certificate, now in its fifth year, is administered through the Nelson Institute. During FY18, 35 students applied and were admitted; in addition, 25 students received the certificate. A substantial overhaul of the Sustainability Certificate went into effect for the 2018-2019 academic year.²⁵ Professor Ann Terlaak serves as the certificate’s faculty advisor.

Other sustainability-related programs for undergraduates include the Certificate in Engineering for Energy Sustainability²⁶ and the Environmental Studies Certificate.²⁷ For graduate students, other sustainability-related certificates are offered: Business, Environment, and Social Responsibility,²⁸ Energy Analysis and Policy,²⁹ and the Center for Culture, History, and Environment.³⁰

University Housing

Waste streams. In FY18, 331,545 pounds of material was diverted from the landfill, saving \$14,808 in tipping fees and supporting over 20 campus and community organizations. Also during FY18:

- Permanent donation bins were placed in Dejope and Ogg to reduce waste and promote donations throughout the year to teach sustainable behavior prior to Move-Out.

²⁵ Sustainability Certificate learning goals, <https://nelson.wisc.edu/undergraduate/sustainability-certificate/learning-goals.php>.

²⁶ Certificate in Engineering for Energy Sustainability, <https://energy.wisc.edu/education/for-students/academic-programs/certificate-energy-sustainability>.

²⁷ Environmental Studies Certificate, <https://nelson.wisc.edu/undergraduate/environmental-studies-certificate/index.php>.

²⁸ Certificate in Business, Environment, and Social responsibility, <https://wsb.wisc.edu/programs-degrees/certificates/business-environment-social-responsibility-grad>.

²⁹ Energy Analysis & Policy Certificate, <https://nelson.wisc.edu/graduate/energy-analysis-policy/index.php>.

³⁰ CHE Certificate and PhD Minor, <https://nelson.wisc.edu/che/teaching/certificate-phd.php>.

- All 7,500 Housing residents were given a Camelbak water bottle at Move-In, Fall 2017. These bottles were distributed in partnership with the Office of Sustainability.
- Compost bins were available for residents on each floor in all trash/recycling rooms and kitchens. Compost also was collected in all six Dining Halls of University Housing.
- Bins for specialty items (e.g., clothing, housewares, printer cartridges, batteries plastic bags) provided convenient recycling points for Housing residents.

Move-Out. Each year Housing partners with students, faculty, staff, campus and community organizations to help students donate or recycle items they no longer need. This event is volunteer run. During Move-Out in Spring 2018:

- 38 percent of Move-Out items were diverted from the landfill (109,257 pounds).³¹
- 1500 pounds of Styrofoam and 115,400 pounds of cardboard were recycled.
- Housing engaged as volunteers 81 students enrolled in sustainability-related courses.



A student volunteer hefts a rug pad during Move-Out 2018.

Dining Facilities. Waste trainings, a sustainability toolkit, and checklists have been created for staff in all Dining units.³² Based on conversations begun in FY18, the dining facilities of Housing will introduce reusable take out containers in Fall 2018.³³

Programming and outreach. Each residence hall elects a sustainability chair to create and promote sustainable programming within their communities with the goal of educating fellow residents and creating a more sustainable campus. Residence Life staff is trained on campus sustainability resources to enable them to develop programming that actively engages their communities in sustainability.

Green cleaning products. Housing’s Green Seal certified Lotus Pro water-based cleaning system saves Housing \$30,000 each year and eliminates harmful cleaning chemicals.³⁴

Waste & Recycling

Many programs are in place to reduce waste and to increase material reuse, recycling, and composting. Through these efforts, campus recycling rates have steadily improved and UW–Madison now diverts about 3,000 tons of waste from the landfill every year, including during FY18.

UW–Madison has recycling programs for more than two dozen types of materials:

- **Cans, glass, plastic.** In 2017, UW–Madison recycled 435 tons of these materials.

³¹ “Badgers Move Out Sustainably, Rain or Shine,” June 4, 2018, <https://www.housing.wisc.edu/2018/06/badgers-move-out-sustainably-rain-or-shine/>.

³² Waste and Recycling Interns, <https://sustainability.wisc.edu/waste-and-recycling-interns/>.

³³ “University Housing Dining & Culinary Service’s Ticket to Take Out Program Makes To Go Food Environmentally Friendly,” August 16, 2018, <https://www.housing.wisc.edu/2018/08/university-housing-dining-culinary-services-ticket-to-take-out-program-makes-to-go-food-environmentally-friendly/>.

³⁴ “Jodi Krause Leads UW-Madison Division of Housing Toward Sustainable Cleaning,” Office of Sustainability Newsletter, October 9, 2017, <https://sustainability.wisc.edu/jodi-krause-sustainable-cleaning/>.

- **Paper.** In 2017, UW-Madison recycled 69 tons of books, 969 tons of mixed paper, and 211 tons of office paper.
- **Expanded polystyrene (EPS).** UW–Madison has one of the first campus recycling programs for EPS containers and packing material. In FY18, ~500 pounds of material were collected each week from laboratory buildings. This project is an example of a collaboration between operations and academics, initially funded by a grant from the EPA.
- **Construction and renovation material.** Asphalt, concrete, wood, and metal are recycled.
- **Chemical and hazardous waste.** Laboratory chemicals are recycled whenever possible to keep chemicals out of the waste stream, reduce disposal costs, and improve employee safety.
- **Electronic waste.** Items collected in FY18 include printer cartridges, small appliances, computer equipment, and mobile phones.

Composting. For the majority of FY18, organic material from campus, including food waste, leaves, and other landscaping material, was composted at the West Madison Agricultural Research Station. Pre-consumer food waste was collected from 40 locations on campus, including dining centers, catering operations, restaurants, and cafés. The Waste and Recycling Unit is also working with various campus groups to increase collection of post-consumer food waste from the Unions and dining centers. For example, the two largest campus dining centers use pulping units to process post-consumer food waste and paper materials for composting.

Reuse. Surplus With a Purpose (SWAP) collects unneeded furniture, equipment, and office supplies for reuse, resale, or recycling. These efforts reduce costs and keep items out of the landfill.



Future Directions of the Office of Sustainability

While FY18 was marked by a range of successes, the coming year offers even greater potential. In August 2018, with the arrival Missy Nergard, full-time director of sustainability for FP&M, the Office of Sustainability is poised to move ahead. Professor Cathy Middlecamp, who has served three years in the capacity of interim director of sustainability education and research, will work closely with Nergard.

In FY18 and in the years to come, the Office of Sustainability is pursuing a well-defined strategy for campus sustainability that will include:

- Ongoing, data-driven gap analysis based on STARS and other sustainability benchmarking systems
- Clear goals for carbon resiliency, energy conservation, and resource stewardship
- Understandable measures to track progress toward these goals

Work to strengthen and further develop the Office of Sustainability is occurring in 3 overlapping phases:

Phase 1: Hiring and Startup

This phase includes a) hiring a new full-time director of sustainability in FP&M; b) continuing the work of the current interim director of sustainability education and research in the Nelson Institute; c) charging a Sustainability Working Group to provide guidance for startup, buildout, and data benchmarking; and d) identifying and meeting space needs (short-term) for new and existing OS staff.

Phase 2: Campus Benchmarking

This phase includes a) hiring a STARS data manager/data analyst; b) creating position descriptions for sustainable operations specialists and hiring them; c) mobilizing all campus units to support STARS data collection; d) collecting and analyzing campus sustainability data; e) submitting STARS data to AASHE; and f) using these data to identify gaps/opportunities in education, research, and campus operations.

Phase 3: Implementing a Strategic Plan

This phase includes a) creating a permanent Sustainability Advisory Group; b) addressing the gaps/opportunities that were identified by the data; c) implementing the strategic plan in conjunction with this Advisory Group and the Office of Sustainability; d) identifying and meeting space needs (long-term) for OS staff; and, going forward e) determining where best to place Office of Sustainability in the UW-Madison organizational chart.

Immediate Next Steps in FY19

The director of sustainability and the interim director of sustainability education and research will work together with campus leadership to continue to align sustainability efforts and to integrate sustainability throughout the university. Specific initiatives will include:

GHG inventory and STARS reporting. In 2019, UW-Madison will complete an initial Greenhouse Gas (GHG) inventory and will submit the first STARS report from UW-Madison.³⁵

Additional sustainability staff. In FY19, the director will hire a STARS manager/data analyst in the Office of Sustainability. In FY20 and in the years that follow, the director will hire several sustainable operations specialists who will reside in FP&M.

Working Group and Advisory Group. In FY19, the director and the interim director of sustainability education and research will work with campus leadership to formally charter a Sustainability Working Group. After this group completes its charge, it will be followed by a campus-wide Sustainability Advisory Group.

³⁵ AASHE STARS, <https://stars.aashe.org/>.